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ABSTRACT

Generated out of concern over the confusion and ambiguity between the terms "industrial arts" and "industrial arts education," resulting from their long term misuse and misinterpretation, this paper seeks to clarify their intent and role within the public education sector and industrial education in general. One of a number of programs and/or services coming under the umbrella of industrial education, industrial arts is taught in high school and classified as a general education or pre-vocational education program emphasizing the development of manipulative skills, while industrial arts education is a college level program which prepares individuals to become teachers of industrial arts. The conflict in industrial arts and industrial arts education stems not from the definition of terms nor the separation of programs but, rather, from a desire to fuse all terms and all programs under the industrial education umbrella. The lack of clearly delineated roles and goals under this umbrella further confounds the situation. The intrusion of a trade and industrial or technical education program in the industrial arts program is damaging to the students, teachers, and the program. Industrial arts and industrial arts education needs to confine its role and product to education and not to industry or engineering. (SN)

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THE CONFLICT WITHIN INDUSTRIAL ARTS AND INDUSTRIAL ARTS EDUCATION

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THE CONFLICT WITHIN INDUSTRIAL ARTS AND INDUSTRIAL ARTS EDUCATION

The purpose of this presentation is to define the intent and the role of industrial arts within the public education sector and within the total industrial education discipline. One by-product, resulting from this definition, ought to be the delineation of the role of industrial arts education. There is a difference between the two--industrial arts involves high school age students while industrial arts education involves college age students preparing to become, "...teachers in the field of industrial arts."[1] An unclear picture of one will result in a hazy view of the other.

Industrial arts ought not to be confused with industrial education, which is a generic or group term used to designate various types of education of an industrial nature. However, the generic use of this term is really the root cause of the confusion existing both in industrial arts and industrial arts education and in vocational education and vocational teacher education. Too often, practitioners in the field--especially those educated and trained in an industrial arts oriented education and training center--view the two as synonymous. It is vital and important to differentiate between and among all the aspects of industrial education in order to reduce confusion and to educate and train people for program specifics. Terminology assists in the clear understanding of programs; and, the terminology in this field--in the words of Barlow is "all mixed up"[2] in the historical record. Since Dr. Barlow has gone to the trouble of setting the record straight for this generation of educators, we, who are actively involved, should not perpetrate errors by compounding misunderstanding. Definition is important--as any semanticist will attest to--since definition gives body and form to terms, and--thereafter --the terms or symbols have singular meaning rather than generic meaning.

Within the discipline of industrial education there are several program specifics. They are: Technical education, vocational education, trade and industrial education, mechanical arts, manual arts, and industrial arts. The definitions of some of these are vague and open to discussion, but they are worthy of review.

Technical education is education and training designed to enable individuals to apply scientific and engineering knowledges and to apply appropriate skills. Implicit in this definition is the understanding that a person trained in this aspect of industrial education will deal more with theoretical, but proven concepts and with appropriate information and cognitive skills rather than with manipulative skills.

Since the role of the technician in the American Society has never been adequately defined, the definition of technical education is open for discussion.

Vocational education is another generic term that includes many services within its definition. The services included in this umbrella are: agriculture education, business and office occupations education, distributive education, health occupations education, home economics and consumer education, technical education, and trade and industrial education. Most vocational educators would also include the industrial arts field within the parameters of vocational education. To them, industrial arts may fall under the influence and realm of general education, but many vocational educators view industrial arts as a pre-vocational education program and as an absolute essential to the total vocational education program. Primarily, vocational education and vocational educators are concerned with the development of basic manipulative skills in those persons who seek to enter one of the ten general divisions of occupations.

Public Law 88-210 defines vocational education as "...training or retraining...conducted as part of a program designed to fit individuals for gainful employment as semiskilled or skilled workers...in recognized occupations...."[3]

Trade and industrial education, which is a vocational education service area, encompasses apprenticeship training, on-the-job training, and trade extension, and is defined as "...instruction...planned for the purpose of developing basic manipulative skills, safety judgments, technical knowledge, and related occupational information."[4] Explicitly, the United States Office of Education has interpreted this definition to mean education and training in the areas of "...designing, producing, processing, assembling, maintaining, servicing, or repairing of any product or commodity...."[5]

The mechanic arts was an earlier version of trade and industrial education in which the mechanic arts attempted--through shop and classroom instruction--to substitute for an education oriented apprenticeship program.

Manual arts was a forerunner of the present day industrial arts. This earlier term identified a segment of education consisting of shopwork involving design and hand construction in various mediums for the purpose of developing art appreciation and manual skills. The latter two, mechanic arts and manual arts, have--within the domain of public education--gone the way of other good ideas. They are gone, but not forgotten and exist only in some transitory way. Both are probably implemented by concerned classroom teachers desirous of developing the cognitive--manual abilities of their students; and, without knowing that they are practicing an extinct educational program. The two require further exploration for present day usage, especially where it is not feasible to employ an industrial and practical arts program or a vocational education program.

Roberts has defined industrial arts as "...instructional shopwork which provides general education experiences centered around present-day industrial and technical life."[6] Roberts sees the industrial arts student benefitting by receiving an orientation to the areas of appreciation, production, consumption, and recreation through actual experiences in planning, producing, servicing, and repairing various types of consumer goods in common usage.

Writing with considerably more insight into the field of industrial arts and with a practitioner's perspective, Bakamis sees industrial arts placing more emphasis on "...the development of interrelationships in subject matter, pupil activities,...attitudes and appreciation, and social development."[7] He works from the assumption that these reference points can be achieved within the framework of industrial arts--either in the shop, classroom, or in the laboratory.

Both definitions accentuate the general goals of industrial arts, which are:

1. the development of students' insights and understandings of the processes of manufacturing and the role of industry in society; and,
2. the development of students' talents and abilities in the uses of tools and equipment.

These goals are the intent of the industrial arts program, and accordingly, are the parameters around which the role of industrial arts is defined and--presumably--designed.

The conflict in industrial arts and, ultimately, in industrial arts education materializes not from the definition of terms and not from the separation of programs; but, rather, from the desire to fuse all terms and all programs under the industrial education umbrella. This, in itself, would not contribute to the confusion and the conflict if--and it is a big if--if under this umbrella and within a particular education program, the roles and the goals are delineated for all to understand and all to follow. Experience indicates that this is not the case. Consequently, industrial education within an industrial arts setting is attempting to educate and train individuals generally, specifically, technically, and conceptually without a clear sight on a definite target. This is being pursued by persons with varying abilities and with varying training and educational backgrounds in the belief that occupational experience coupled with academic preparation and little else, in terms of role and goal understanding, is sufficient reinforcement to prepare others for work. The rationale appears to be that any person with manipulative abilities who is trained through experiences in certain general skills and who assimilates certain general knowledges or related information will perform successfully in a technical society.

Educators, and especially general educators, in urban centers caught up in the problems of the society and with restricted knowledge as to the goals of industrial education and the goals of vocational education look to the industrial arts shop or laboratory as the obvious base for the implementation of a T & I or technical education program. The industrial arts shop is neither the obvious nor the ideal place to initiate a service area in vocational education. Personally, I believe the rationale to be erroneous and fallacious; and, I believe the intrusion into the industrial arts program to be damaging.

It is erroneous for the following reasons:

1. The trades require persons specifically equipped for and trained in manipulative skills.
2. Production work requires little manipulative skills or theoretical understandings.
3. Preventive and corrective maintenance requires mechanical skills.
4. Engineering requires an extensive base of theoretical and conceptual knowledge.

It is fallacious to believe that this one aspect of an industrial educational program rooted in a traditional education setting can provide the necessary base of industrial education and training required of persons headed in a particular direction, whether that direction be occupational employment, professional employment, or educational employment.

The intrusion is damaging to students and to teachers when an educational program confuses its goals, since vacillation in person and program is apt to develop. Thereafter, all future efforts and endeavors are apt to be plagued with uncertainty as to direction.

It is damaging, also, since the possibility exists for the dismantling of a strong educational exploration program replaced by a weak occupational preparation program. In such a case, two aspects of an industrial education program are weakened and in the end the kids lose.

Industrial arts has a definite place in the educational enterprise. It was designed to serve as an exploration and as a guidance function within a specific portion of the total education program. When it is influenced to do otherwise by unsuspecting industrial arts teacher educators--regardless of their altruistic desires to improve or expand an existing education program

for societal reasons--then the conflict in industrial arts is extended to industrial arts education and stands to endanger the unsuspecting pre-industrial arts teacher.

A total program of industrial education can be included in an educational setting at any educational level providing the where-with-all is available. Until the resources are made available, no attempt should be made to lump it all together since this will only result in undertrained--perhaps even overtrained--individuals who will not be alluring to any employer.

The conflict in industrial arts and in industrial arts education is not to be found in specific program with regard to definition or goal; but, rather, within the educator's zealous desire to be all things to all people at a time when society is calling for relevance in education. Industrial arts and industrial arts education is relevant and should not fall into this trap. Industrial arts needs, simply, to do its thing. It should assist kids to find themselves and assist them to make rational educational choices as the kids begin to make the jump from immaturity to maturity, from childhood to adulthood, and from education to work. The methodology employed to accomplish this assistance is not important. Industrial arts teachers can employ the project method, the production sequence, the recently developed and innovative Industrial Arts Curriculum Project, or a combination thereof. The end--assuming it is a successful end--will justify the mean!

Industrial arts education simply needs to prepare teachers to do their thing, also. Finding better ways to prepare industrial arts teachers is not synonomous with education and training for some other aspect of industrial education or engineering education. This statement, if analyzed, could lead us into a debate with regard to the practicality of placing the emerging

industrial technology program adjacent to the industrial arts education program in a teacher education setting within a multi-purpose college. But, that's a topic for another person at another time.

Industrial arts and industrial arts education needs to confine its role and its product to education and not to industry or engineering. That was and ought to be the intent of Industrial Arts and Industrial Arts Education in the American public education enterprise.

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